THE WORLD OPIUM SITUATION

October 1970

Approved For Release 2001/08/30 : CIA-RDP73B00296R000300060031-9

Introduction

Abuse of opium-based drugs has been on the rise in the postwar period despite international efforts to suppress it. The present system of international controls is embodied in the 1961 Single Convention on Narcotic Drugs, adopted under United Nations auspices. By the time the Convention was adopted, the controls over opium -- once it came into the possession of the state export organizations and the pharmaceutical firms -- had proved on the whole to be quite effective. One of the main control problems, continues to be the preventing of the diversion of farm production directly into the illicit traffic.

In order to reduce leakage from the farm, the Single Convention calls for the establishment of state opium monopolies which are to designate areas for legal poppy cultivation and license individual farmers to grow the crop. The Convention also permits exports only by those countries which legally exported it in the period prior to 1961: Turkey, Bulgaria, India, Iran, the USSR, Greece, and Yugoslavia. To oversee compliance with its provisions, the Convention established the International Narcotics Control Board; however, the INCB has no enforcement powers.

Notwithstanding the Convention's provisions, illicit production has continued to flourish for many reasons beyond the lack of enforcement authority of the INCB. In addition to the inherently difficult task of administering crop control, the responsible factors include the persistence of consumer demand and the limitations on the ability of enforcement authorities to deal with illicit traders. Given the present scale of opium-based drug abuse

it is unlikely to be lastingly suppressed without greater international cooperation in treatment and enforcement programs as well as in attempts to control production directly. In any case, progress will not be easy, because opium production and consumption reflect larger problems of political, social, and economic developments.

This report attempts first to estimate the scale of world opium production and consumption and to describe the patterns of illicit trade and its organization at the wholesale level. Second, it traces the history of the major changes in the opium market in the postwar period. Finally, the report discusses the problems involved in controlling illicit production, consumption, and trade in opium and its derivative products.

The Production, Consumption, and Trading of Opium and Its Derivatives

Sources and Uses of Opium and Opiates

Opium is produced from several varieties of the poppy plant, *Papaver somniferum*. This annual plant rises three to four feet on a thin main stalk and produces several blossoms and pod-like structures about the size of an egg. Planted mostly as a fall crop but sometimes also as a spring crop, it requires intensive cultivation and much harvesting labor. About two weeks after the blossoms fall the pods are lanced by hand and the white latex-like raw opium oozes out and coagulates. It is then collected by scraping the gum from the pod. Upon further exposure, the gum turns brown and hardens into a brick-like form. The chief active chemical principle of opium is the alkaloid morphine, the sole source of the drug's simultaneously analgesic, narcotic, and addictive properties.

In its pure state, opium may be eaten, smoked, or drunk in potions. Eating and smoking are the predominate forms of consumption. Opium has a long tradition in folk medicine, and addiction to it is to some extent associated with the alleviation of physical pain in settings of poverty and low standards of public health. The habitual use of opium for nonmedicinal purposes also reflects long-standing customs in many parts of the world. Only relatively small amounts appear to be consumed by people reacting to stress in settings of rapid social change and conflicts between traditional and modern values.

In modern medicine the use of raw opium has been long superseded by its easily distilled derivatives (opiates) in which the morphine content is isolated. Most morphine is still produced from raw opium, but increasingly it is being derived from the industrial processing of poppy straw (pods and upper parts of stalks). This yields no opium and results in the direct production of morphine. The use of morphine as an analgesic has fallen off especially since World War II in favor of synthetic substitutes, but the further processing of morphine into codeine, the major antitussive in modern medicine, has been

on the rise. While addiction to morphine is now a serious problem in only a few countries, heroin addiction has spread to many. Heroin is a semi-synthetic derivative of morphine obtained by the action of acetic anhydride or acetylchloride on morphine. Now generally regarded as having no unique medical value, heroin is outlawed in most countries. For the most part it is now produced in small, crude clandestine laboratories.

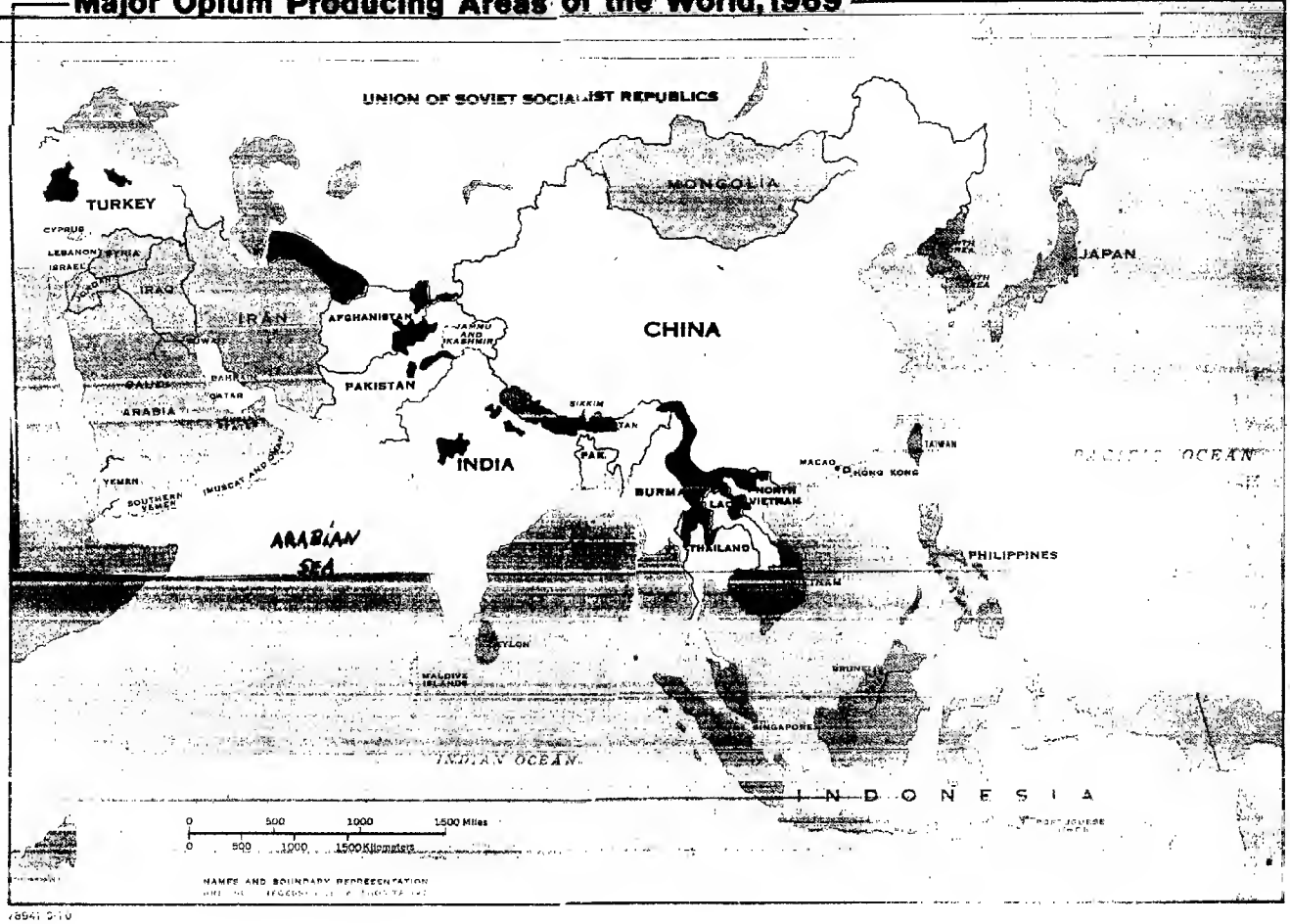
In morphine the effects of opium are multiplied several times and in heroin they are even more intensified, particularly when the substances are taken by injection. Euphoria and indifference to pain and distress are heightened as are the after-effects and addictive craving. Although a substantial portion of populations consuming opium may be classified as users rather than addicts, in those consuming morphine and heroin addiction is the general rule. Addiction to heroin especially can be associated with societies undergoing rapid social change and with attendant conflicts between traditional and modern values. In contrast to opium consumption, heroin consumption is essentially an urban phenomenon restricted mostly to people under 40 years of age.

Zone of Production

The location and extent of opium poppy cultivation are profoundly influenced by factors of climate, terrain, and economics. While the opium poppy can be grown in a variety of soils, it dislikes heavy, clayey, or sandy soils. The plant thrives in warm but not humid climates. It requires only a moderate amount of water before and during the growth cycle to insure profitable yields, but rainfall during the harvest period can be disastrous because it leaches alkaloids from the pod. Much of the sometimes irrigated flat terrain of mountain valleys, 3,000 feet or more above sea level, in the Middle and Far East meets the climatic and soil conditions well. Most world poppy cultivation occurs within a zone extending from the Turkish Anatolian Plain to Yunnan Province in China (see Figure 1).

Figure 1

Major Opium Producing Areas of the World, 1969



The greatest concentrations of opium poppy acreage are in India and within the contiguous areas occupied mostly by hill tribes of Burma, Laos, and Thailand. India has well over 35,000 hectares under cultivation, and the other Far Eastern areas probably have a significantly larger acreage under cultivation. In the region embracing the Pushtu-speaking peoples of northwestern West Pakistan and northeastern Afghanistan and in the Central Asian republics of the USSR there is also extensive poppy acreage. Turkish poppy cultivation was reported to be 12,000 hectares in 1970, probably somewhat less than in either Afghanistan, Pakistan, or the USSR. The poppy acreage in Communist China is unknown but may well be less than it is in Turkey. Iran, which abolished production during 1956-68, planned to have 12,000 hectares under poppy cultivation in the fall of 1970. The scattered cultivation in Mexico, South America, and parts of North Africa is of very little significance compared with the major growing areas. In all the above-cited areas, poppy is raised by hand cultivation and harvesting, chiefly to obtain raw opium. Poppy is raised also by mechanical cultivation and harvesting on a relatively modest scale in Northern and Eastern Europe and the European parts of the USSR for the purpose of processing poppy straw into morphine. In 1969, such processing accounted for about 40% of world morphine production. An equally important purpose of this European and Soviet cultivation, however, is to obtain poppy seed for bakery products.

In most opium-producing areas, poppy cultivation represents only a minor portion of the cropped land. Poppy farmers from Turkey and Iran through India seldom devote more than one hectare to the crop. In these producing countries the farmers use the major part of their land to produce food for their own needs, chiefly to produce wheat. In some producing areas of the Far East, however, poppy acreage represents a larger portion of the cropped land. Among some of the Meo hill tribes of northern Thailand pursuing a slash-and-burn type of agriculture, half or more of the cropped land may be in poppy, with the remainder in upland rice. These farmers produce only part of the rice they need for food, and hence they market part of their opium for additional rice.

Beyond the need to produce food, another major constraint on the extent of poppy cultivation arises from its highly labor-intensive character. Some authorities have estimated that from 175 to 250 hours of labor are required to produce one kilogram of opium. Although yields vary with soils, temperatures, rainfall, and quality of seed, they also depend upon farming techniques. Thus in practically all producing areas yields can be significantly increased with proper irrigation. Moreover, because poppy rapidly depletes the soil of nutrients, good yields can be obtained only with fertilization or, at a minimum, by rotating land used for poppy with other crops. The most important determinant of yields, however, is the amount of labor used. The plant cannot thrive without thinning the young plants to allow for proper spacing and without several hoeings and weedings during the growth cycle. Harvesting, however, requires the greatest amount of labor. Each of the five or six pods growing on a single plant must be lanced and then -- usually within a 24-hour interval -- the gum must be collected. Lancing is commonly done at least twice (with a one-week interval between the first and second time) in Turkey but may be done as much as six or eight times in India. This harvesting labor is sufficiently time-consuming to occupy entire families -- and sometimes hired hands as well -- over periods extending from two to three weeks to two months at times close to the harvesting or planting of other crops. Because of the tremendous amount of labor it involves, poppy tends to be raised only where labor is abundant and cheap -- annual per capita incomes range from $370 in Turkey to less than $100 in India and the Far East.

The Economic Motivation to Produce

The farmer's income from poppy cultivation is affected both by the yield he obtains and by the quality of his product. These, in turn, reflect to an important degree the intensity of his cultivation techniques and his care in developing quality seed. In gross terms, yields are highest in India (20 kilograms per hectare), but Indian opium is commonly adulterated with seed, leaves, and even foreign matter. Turkish yields during the late 1960s ran 15 to 16 kilograms per hectare. Afghani

and Pakistani yields may approximate the Turkish but mainly because of adulteration. In Burma, Laos, and Thailand, yields may amount to only about 8 to 10 kilograms per hectare. The quality of opium may be defined as its morphine content. In Turkish opium this ranges from 9% to 13%, the highest in the world. In other producing countries the morphine content is generally lower, varying from 4% to 12%. In Turkey and India the farmer receives additional income from the harvesting of poppy seed and straw.

In general the farm price of opium, both licit and illicit, tends to decline moving from west to east in a pattern corresponding with changes in product quality. On the illicit market the price to Turkish farmers is estimated to have been about $25 per kilogram in 1969 (see Table 1).

Table 1

Prices to Farmer for Raw Opium
1969

Producing Country	US $ per Kilogram
Turkey	
Licit	11.00
Illicit	25.00
Pakistan	
Licit	10.00
Illicit	12.00 to 15.00
India	
Licit	10.00
Burma/Laos	
Illicit	12.00
Iran	
Licit	91.80 a/

a. Price for top-grade opium only.

In Pakistan the illicit price averaged an estimated $12 to $15 and in Burma, Laos, and Thailand about $12. Prices to farmers on the licit opium market vary less markedly, except for the special case of Iran. In Turkey and India, the only significant exporters of licit opium, the upper limit is determined by the world market price. Both countries export most of their licit production and attempt to make a small profit on the export sales. For Turkish opium the price was about $12 per kilogram during most of the 1960s, and for Indian opium it was about $1 less. Iran is a special case because when it resumed licit production in 1969 it set a producer price of $91.80 per kilogram for top-grade opium and an average price of perhaps half that amount in order to discourage leakage into illicit market channels.

Even though the price for opium declines moving eastward, poppy cultivation as an element of farmers' incomes is usually more significant in the eastern countries. In Turkey, for example, earnings for the 70,000 farmers cultivating poppy in the late 1960s averaged $70 to $80 per year, with half this amount deriving from illicit production. These earnings represented roughly 10% of the average income in the major poppy-growing areas of about $700 per farm and accounted for perhaps half the cash income per farm. In India, 200,000 farms each earned $70 to $75 on the average from poppy cultivation. This could easily represent 15% to 20% of average total income per farm and probably most of its cash income. In Burma, Laos, and Thailand, opium is often the principal source of farm income.

Given the climate and soil conditions of the main opium-producing countries, there is no readily substitutable crop that can yield a comparable income return per unit of cultivated land. In West Pakistan, for example, much of the area sown to poppy could be used for high-yielding Mexican wheat, but given current yields in the area, the return to the farmer would be only about $50 per acre, compared with the $90 realized from poppy. In Turkey it might also be possible to raise Mexican or other high-yielding varieties of wheat on some poppy acreage and obtain the same return as in Pakistan. The disparity between the income from

wheat and poppy per unit of land would be even greater there, however, since the average price for opium -- counting licit and illicit sales -- is considerably higher than in Pakistan. In order for wheat fully to compensate the farmer for forgoing opium production, yields would have to be almost doubled in Pakistan and in excess even of that in Turkey. A recent UN survey of the poppy-growing areas of northern Thailand concluded that the prospects for developing an alternative crop to poppy that would bring anything like commensurate returns are not encouraging.

Licit Production, Consumption, and Trade

Licit opium production probably approaches 1,100 tons annually, or less than half of total world production (see Table 2). India, with 750 tons of licit output in 1968, far outranks any other national producer. The USSR and Turkey, each with an output of roughly 120 tons in 1968, are the second-ranking producers. On the basis of the likely medical requirements for its vast population, production in Communist China can be estimated at 75 to 100 tons. Production in North Vietnam is very much less. Pakistan, Japan, Bulgaria, and Yugoslavia all produce only small amounts of licit opium. In 1969, Iran produced 9 tons.

Practically all the world's licit opium production is used for the manufacture of medicinal opiates. Morphine production currently runs about 160 tons per year, with 40% originating from the processing of poppy straw. In 1968, 30,000 tons of poppy straw were processed, including 6,500 tons by the USSR. Other leading processors include the Netherlands, Czechoslovakia, Hungary, and Poland. The supply of opium is adequate for world medicinal needs and, although prices for opium have risen in the past year or so, this has reflected no long-term shortages.

The major portion of licit opium produced -- about two-thirds of world production in the late 1960s -- is exported as raw material to pharmaceutical firms, chiefly in Western Europe and North America. India accounted for more than 80% of these exports in 1968 and Turkey for nearly all

Table 2

Estimated World Opium Gum Production a/
1968

Metric Tons

Producing Country	Licit Production b/	Illicit Production	Total Production
India	750	175 to 200	925 to 950
Turkey	120	100	220
USSR	115	--	115
Yugoslavia	Negl.	--	Negl.
Pakistan	Negl.	175 to 200	175 to 200
Japan	Negl.	--	Negl.
China	75 to 100	Unknown	75 to 100
Afghanistan		100 to 125	100 to 125
Burma		400	400
Thailand		200	200
Laos		100 to 150	100 to 150
Mexico		5 to 10	5 to 10
Other c/		5 to 10	5 to 10
Total	*1,060 to 1,085*	*1,260 to 1,395*	*2,320 to 2,480*

a. Rounded to the nearest five tons.
b. As reported by licit exporting countries to the United Nations, except for Communist China.
c. Mainly North Africa and the Near East.

the remainder. Both countries sell most of their licit output abroad. The USSR and China export none of their opium production, and the USSR supplements its domestic supply with substantial imports from India. Exports of poppy straw also serve as medicinal raw materials. World exports amounted to 6,560 tons in 1968, with 98% from Turkey.

A very minor portion of licit opium production is used by some governments for the treatment of addicts, mainly to provide maintenance dosages for registered addicts. Maintenance programs are in effect in India, Pakistan, and Iran. India planned to dispense two tons of opium in 1970 to registered addicts through authorized vendor outlets. This amount would account for only a small percentage of total consumption by Indian addicts and users. Pakistan's program is also small in relation to total consumption. Iran began registering addicts only in late 1969. By March of this year, 30,000 persons had registered, and by mid-year the figure may have reached 50,000, or perhaps 15% of the national addict and user population. Though the quantity of opium provided by government maintenance programs varies among these countries, in each of them, as in other victim countries, most addicts are supplied exclusively by the illicit market.

Illicit Production and Consumption

The world's illicit production of opium is an estimated 1,250 to 1,400 tons annually. The principal concentration of illicit production is the Far East, with the other areas tending to rank in descending order of importance moving westward. Together Burma, Laos, and Thailand account for an estimated 700 to 750 tons, or more than half of world illicit output, and Burma alone for about 30%. Afghanistan-Pakistan is in second place as a producing region, with an output on the order of 300 tons. Pakistan's production of 175 to 200 tons is about the same as India's. Turkey's illicit output, estimated at 100 tons in 1968 and 1969, may not be significantly less. Some opium is produced illicitly on a very small scale in Mexico and in some South American, North African, and Near Eastern countries. Communist China's once vast illicit output dwindled to insignificance in the latter 1950s. Illicit output in the USSR, the Communist countries of Eastern Europe, and North Vietnam is probably also insignificant.

It is possible that the user and addict populations consuming the world's illicit supply of opium and opiates number at least two million persons (see Table 3). No firm data on these populations are available for any individual country, and for the most part the only estimates available are based on the judgments of health or police authorities or independent observers. Moreover, estimates vary widely as to the populations in individual countries. Yet practically all observers are agreed that the largest single grouping of users and addicts consists of overseas Chinese in the Far East and Southeast Asia. Burma, Laos, and Thailand may together account for three-quarters of a million users and addicts, with Burma having the largest share. Hong Kong alone may account for another 150,000, indicating the highest per capita opium-based drug abuse rate in the world. The largest national populations of users and addicts are in Burma and Iran where their number in each could be 350,000. A likely figure for India is 250,000 to 300,000 persons and for the Afghanistan-Pakistan region, perhaps 100,000 to 150,000. For North America (mainly the United States) and Western Europe the best estimates are more than 100,000 and 75,000, respectively.

Table 3

Annual Consumption of Illicit Opium
and Opiates and Sources of Supply

Country/Area	Users and Addicts a/ (Thousand)	Metric Tons of Raw Opium: Domestic Illicit Supplies	Metric Tons of Raw Opium: Net Illicit Imports
Iran	350	Negl.	250
Afghanistan/Pakistan	100 to 150	75 to 100	
India	250 to 300	175 to 200	Negl.
Thailand	250	175	Negl.
Burma/Laos	500	350	Negl.
Hong Kong	150	--	105
Singapore/Malaysia	40	--	30
North America	100	--	40
Western Europe	75	--	30
Other b/	100	Negl.	70

a. Including heroin and morphine addicts whose consumption is converted to units of raw opium equivalent.
b. Including Indonesia, South Korea, Japan, the Philippines, Taiwan, Macao, North Africa, and the Near East.

Most of the world's users and addicts consume opium in its raw form either by smoking or eating. From Iran through India, eating is generally the main form of consumption, whereas in the Far East and Southeast Asia smoking is more common. In Iran and all the countries now producing illicit opium, except Turkey, user and addict populations are traditionally found in both rural and urban areas and among both the youth and older people. The poppy-growing tribes of the Far East, in particular, contain sizable numbers of users and addicts. Turkey itself, however, has no significant user or addict population.

The illicit consumption of opium derivatives -- overwhelmingly in the form of heroin -- is now a major problem for many countries of the world. The United States, with no addiction to raw opium, has the largest single population of heroin addicts, which is estimated to be more than 100,000. A major heroin population of some 50,000 also exists in Iran, while the total for Western Europe as a whole may be on the order of 75,000. Addiction to heroin also accounts for a significant and increasing part of the opium consumed in Thailand, Hong Kong, Taiwan, Japan, South Korea, and the Philippines. Morphine accounts for a substantial share of the opium consumed only in Singapore and Malaysia.

In the populations consuming opium or opiates there is considerable variance among individuals regarding the amounts consumed. Consumption varies with the form of the drug and the manner in which it is taken as well as with the severity of the habit or addiction and the availability of the drug at any given time. Opium smokers may consume up to five times more of the product than eaters. It requires 10 units of opium to produce one like unit of heroin, but because of the strength of the converted substance, heroin addicts generally consume less of their product in terms of raw opium than do opium addicts. In the Far East, where heroin is mostly smoked, the consumption of the average addict is presumably greater than in Western countries, where heroin is taken almost exclusively by injection.

If all these variable factors in consumption are considered, only the roughest rule-of-thumb

estimate can be devised for an average per capita consumption in terms of opium among user and addict populations. For this purpose the norms provided by the Iranian maintenance dosage program for registered opium addicts appear to be useful. These norms represent minimal requirements of an addict population, allowing a daily ration of 4.7 grams for smokers (roughly 1,700 grams per year) and one gram for eaters (365 grams per year). Since the available information indicates Iran has some 200,000 opium eaters and 100,000 smokers plus 50,000 heroin addicts, who consume at a minimum about the same amount per person as US addicts, then the per capita consumption for the entire user and addict population would be about 700 grams annually.

The use of the Iranian consumption norms for the major victim countries indicates that about three-fifths of the world's illicit opium supply is consumed within the political territories of the producing countries and handled through their domestic black markets. Burma is the largest single consumer among these countries and, combined with Laos, the domestic user and addict population may require some 350 tons per year. Thailand's consumption possibly approaches another 175 tons. India probably absorbs between 175 and 200 tons of illicit opium and Afghanistan-Pakistan about half the level

The remainder of the world's illicit consumers are supplied by imports smuggled from the major producing countries. The largest market for such imports is Iran, where they have reached a level of perhaps 250 tons. The large consumer population of Hong Kong probably absorbs more than 100 tons per year in terms of opium equivalent. The other major markets are the United States, with the estimated smuggled imports of 40 tons in opium equivalent, Singapore and Malaysia combined (30 tons), and Western Europe (30 tons). Lesser markets may together account for another 70 tons, including Japan, Indonesia, South Korea, the Philippines, Taiwan, Macao, and parts of North Africa and the Near East.

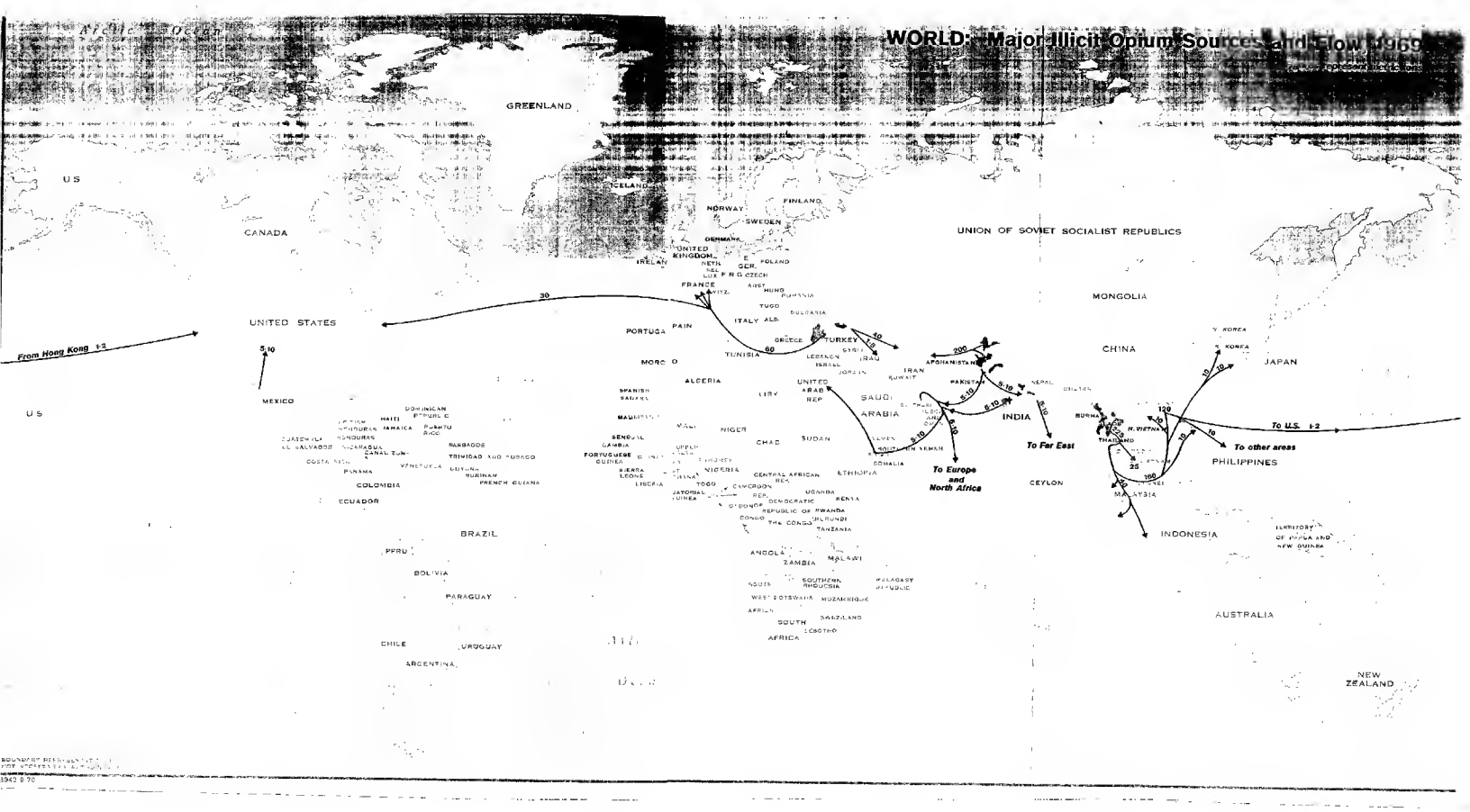
On the basis of the national origin of these illicit imports in the late 1960s, the major sources are the poppy-growing regions of Burma, Laos, and Thailand and those of Afghanistan and Pakistan (see Figure 2). An estimated two-thirds of the

latter region's output -- 175 to 200 tons -- is smuggled out, mostly to Iran's massive market. Burma and Laos together probably export about 30% of their combined output, or 150 to 200 tons, to other Far Eastern and Southeast Asian countries. Thailand consumes most of its production and exports only 25 tons to the same markets. Sixty tons of Turkey's illicit opium production of about 100 tons in 1968 and 1969 was the source of about 80% of the heroin consumed in Western Europe and North America. The remaining 40 tons was nearly all smuggled into Iran. Small amounts of opium are smuggled into India (mainly from Pakistan) and out of the country (in several directions), but on a net basis India is probably not a significant exporter. The small production of Mexico and some South American countries is nearly all exported to the United States. Only a small amount -- perhaps only 5% -- of the US heroin supply was of Far Eastern origin in the late 1960s, and perhaps 15% entered from Mexico. A very small amount of Western Europe's heroin came from the Far East, India, and Pakistan. The latter two countries also supplied small amounts to North Africa and the Near East. There has been no evidence of any illicit exports of opium originating from the USSR and the East European Communist countries, or in recent years from Communist China.

Except in Iran, a substantial part of the heroin consumed in victim countries is manufactured abroad. All of the North American supply so originates, the bulk of it from Turkish morphine processed into heroin in France. Other European countries are also supplied for the most part by laboratories located in France. Heroin laboratories have been observed in Burma, Laos, and Thailand, and some of their product is exported, chiefly to Hong Kong. That colony is also a major site of heroin processing and, like France, a source of heroin exports. Heroin laboratories also have been detected in Mexico. In Iran, virtually all the heroin consumed through the 1960s was processed within the country from opium or morphine of Turkish origin.

Organization of the Illicit Trade

The illicit markets for opium and opiates are seller's markets from which the major supplying firms (individuals and organizations) receive very



high rates of return on their investment. Supplying the US market offers the largest scope for profits, as can be shown from the development of the price of heroin in 1969: from a farm price of $25 per kilogram for opium in Turkey to a wholesale price of $22,000 per kilogram for heroin in New York City to a retail price of $88,000 for the product in adulterated form (see Table 4). In Iran the $15 originally paid to the Afghani or Pakistani farmer for a kilogram of opium spiralled to $2,600 wholesale for the like amount of heroin and to $13,000 retail. In Hong Kong, $2,000 was about the average wholesale price for heroin last year. In Pakistan, where little if any heroin is consumed, the price for opium rose from $15 per kilogram at the farm to $25 in Peshawar to $75 in Karachi. In general, despite the large gap between wholesale and retail price, the largest profits are realized in the wholesale trade where firms can handle large volumes of their product. Typically, retail distribution is managed by dealers selling relatively small quantities.

The wholesale firms trafficking in opium and opiates operate as oligopolies. They are large and few enough for each to exercise considerable influence over the local or national market. Rarely, however, do they choose to act independently. They normally operate in explicit or implicit collusion to set prices and they tend to form cartels to divide up national markets. The established firms also seek a stable environment that will allow them to restrict output of rival firms and dependably to arrange for the handling of large volumes with regularity. Rather elaborate organization as well as careful planning and efficiency of operations are required Characteristically, wholesalers also minimize the legal risks to themselves from engaging in criminal activity. In some cases they may not actually come into direct contact with the contraband product and restrict their role to financing, negotiating contracts, and arranging through intermediaries for the collection or delivery of supplies.

The movement of opium from Turkish farms to illicit markets to the East and West serves to illustrate the general rule of highly organized wholesale trade. The collection of raw opium from the farmers is arranged by the so-called middlemen,

Table 4

Development of Retail Price of Heroin
in the United States and Iran
1969

United States	US $ per Kilogram	US $ per Kilogram of Raw Opium Equivalent
Price to farmer for opium (In Turkey)	$25	--
Wholesale price for heroin a/ (Marseilles)	$5,000	$500
Border price for heroin (New York)	$10,000	$1,000
Wholesale price for heroin (New York)	$22,000	$2,200
Retail price for heroin (New York)	$220,000 b/	$22,000
Iran		
Price to farmer for opium (In Afghanistan/Pakistan)	$12 to $15	--
Border price for opium (Afghanistan/Iran)	$80 to $110	--
Wholesale price for heroin a/ (Teheran)	$2,600	$260
Retail price for heroin (Teheran)	$13,000	$1,300

a. When raw opium is converted to morphine and heroin the volume is reduced by a ratio of 10:1.
b. If sold as pure heroin. In fact, heroin is greatly adulterated when it reaches the addict; the price for adulterated heroin -- 40% purity -- would be about $88,000 per kilogram.

small-scale entrepreneurs who may deal with several villages and who individually gather relatively small quantities of the product. When the product as raw material or in the form of morphine base comes under the control of criminal syndicates in Istanbul, however, the supplies have been aggregated into relatively large amounts. These groups arrange for the export of morphine base westward to France through the use of smugglers who may carry it overland via Bulgaria or Yugoslavia and thence to Germany where other operators arrange delivery to France. They may also use smugglers who carry it directly to Marseilles by boat. Turkish workers based in Europe may be utilized for overland delivery and individual sailors or entire crews for delivery by boat.

The morphine exported west from Turkey is all delivered to a few nationally prominent criminal syndicates in France which arrange for its conversion into heroin and for delivery to European and North American markets. The delivery to the North American markets has been made by some smugglers operating as individuals and others operating in rather well-organized rings. In either event, during the 1960s most of this heroin was delivered to 10 to 12 wholesale firms in the United States and Canada that were major elements in the organized crime of both countries. When arranging the export of morphine and opium eastward to Iran, the Turkish syndicates usually arranged for its movement to the border areas and then for its smuggling into Iran both by groups of Kurdish tribesmen via Iraq and by individual Turkish smugglers directly to Iran. There the narcotic substances were commandeered by wholesalers who marketed some of the opium directly to retailers and arranged for the conversion of morphine and some of the opium into heroin before distribution.

In Afghanistan and Pakistan the first major aggregation of opium for supplying the Iranian market is usually the business of tribal chieftains near the producing areas. These in turn deliver to groups sufficiently organized to arrange transportation for the contraband overland across Afghanistan to the Iranian border, usually by means of trucks using the cross-country northern highway. In the western border area, delivery is usually made to tribal chiefs resident there whose tribesmen make the actual delivery to Iran in armed gangs for small commission fees,

often in quantities of several hundred kilograms. In the distribution of opium on the local black market of Pakistan, tribal chiefs near the producing areas of the country deliver their product to rings which arrange for its movement southward as far as Karachi. In India, where smuggling and black marketing are major economic activities, the wholesale trade in illicit opium may also invite a fairly elaborate degree of organization.

The pattern of wholesale trade is most elaborate in the Far East. The major flow of the traffic from the producing areas of Burma, Laos, and Thailand is directed through the Mekong River valley in the latter two countries. Major cities in these two countries, such as Luang Prabang, Vientiane, and Bangkok serve both as final markets and transshipment points. Thence a major part of the exported opium and heroin is smuggled to Hong Kong which is also both a final market and a transshipment point. Other routes proceed from the transshipment points in Laos and Thailand directly to other markets in the Far East (South Vietnam and Cambodia, for example), by land through Thailand to Malaysia and Singapore, and by boat or air to other countries. The first major collections of the raw opium in Burma are made by the so-called Kuomingtang Irregulars and guerrilla armies of Shan tribal insurgents who themselves convey the product southward for delivery to wholesale operators in cities. The latter arrange for conversion to heroin and for the domestic and export distribution of both opium and heroin. Often these wholesalers are prominent local businessmen. In Laos, both the Communist and the government armed forces are major wholesalers of opium and heroin and have been directly involved in large-scale smuggling operations. In Hong Kong the most prominent importers and wholesalers have also frequently been businessmen whose other activities may have been largely licit.

In general the wholesale organizations trading in opium and opiates seek to involve government officials in their activities by corruption. Essentially, the wholesalers want both legal protection for themselves and insurance for the dependability of their business operations. In order to provide deliveries of contraband in large volumes and with regularity, the wholesalers must indeed seek to corrupt officialdom at fairly high levels if possible.

At the same time, officialdom itself may be vulnerable to corruption because of the relatively large compensation it can get for collaborating with the major traders. For this reason, some officials have been directly involved in marketing transactions. Military officers, for example, were among those recently executed for narcotics violations in Iran. The involvement in the traffic of individual officials and military officers in some other countries has also been documented, as has the use of diplomatic pouches for smuggling opium and heroin. In no country, however, is there likely to be a flourishing illicit trade in opium or heroin without the complicity of at least a few key civil servants or police officials.

Postwar Changes in the Opium Market

Key Developments

The world market for opium has experienced dynamic change -- including two major upheavals -- from the beginning of the postwar period down to the present. In order of importance the landmark events were (1) the shutdown of China's vast illicit market with the change of governments there in 1949, and (2) the abolition of cultivation in Iran after 1955 coupled with the rapid suppression of China's illicit production at about the same time. Although the gradually increasing use of poppy straw and changes in the medicinal uses of opiates have influenced world markets for opium, the major shifts have resulted from government policies.

The market has demonstrated a continuous flexibility in replacing sources of supplies that have been eliminated, in responding to shifts in demand, and in devising new traffic routes. The most massive change in the market was the sudden closure of the incomparably large Chinese illicit market, which greatly reduced world demand for opium. In response to abolition of poppy cultivation in Iran and the sharp reduction or possibly cessation of illicit cultivation in South China, new supplies were developed in Afghanistan-Pakistan, India, Turkey, and the hill areas of Burma, Laos, and Thailand. Further changes in the world distribution of opium production appear to have been put in motion as a result of a cutback in Turkish production beginning in 1968.

Trends in Licit Production, Consumption, and Trade

World licit opium production has fluctuated widely in the postwar years without any clearly discernible long-term trend. The fluctuations may chiefly reflect changes in demand coincident with buildups and depletions of stockpiles. Production was high in the early 1950s -- averaging 1,100 tons annually -- probably because of a desire to replenish

stocks drawn down during World War II (see Table 5). This was followed by a drop of about 25% in average annual production until the late 1950s, after which output rapidly soared to reach 1,500 tons in 1960, or about 50% above the level of 1950. Production remained high until the mid-1960s but has fallen since then to an average of 800 to 900 tons per year. As an indication of the probable drawdown of stocks by pharmaceutical manufacturers in recent years, annual average exports of opium were about the same during 1959-63 and during 1964-68.

Table 5

World Licit Opium Production
by Principal Country a/

Metric Tons

Year	India	Turkey	USSR	Iran	Others	Total
1950	231	185	86	481	20	1,003
1951	527	358	94	32	23	1,034
1952	350	466	104	131	19	1,070
1953	629	321	92	227	26	1,295
1954	438	71	103	144	17	773
1955	362	222	109	95	33	821
1956	348	277	105	--	51	781
1957	485	45	147	--	37	714
1958	657	162	93	--	27	939
1959	763	168	132	--	35	1,098
1960	914	365	169	--	50	1,498
1961	912	172	120	--	50	1,254
1962	971	311	148	--	15	1,445
1963	691	287	172	--	21	1,171
1964	644	83	188	--	25	940
1965	625	86	177	--	13	901
1966	436	139	201	--	6	782
1967	473	115	181	--	9	778
1968	752	122	116	--	3	993

a. Excluding Communist China and North Vietnam.

The lion's share of licit opium production and exports came to be concentrated in India following a sharp reduction in Iran's licit production after 1950 and its total abolition of poppy cultivation after 1955. India's share of the licit market seems likely to be further enlarged as a result of the recent cutback in Turkish poppy acreage, from 20,000 hectares in 1967 to about 12,000 hectares in 1970. India by 1968 accounted for about three-quarters of world licit output and exports (see Table 6).

Table 6

World Licit Opium Exports
by Principal Country

Metric Tons

Year	India	Turkey	Iran	Others	Total
1950	234	265	246	10	755
1951	358	173	267	12	810
1952	163	167	200	7	537
1953	168	169	41	15	393
1954	263	211	56	10	540
1955	199	296	100	5	600
1956	266	274	106	22	668
1957	361	205	71	15	652
1958	493	207	98	2	800
1959	593	170	--	4	767
1960	626	103	--	4	733
1961	658	64	--	3	725
1962	375	116	--	39	530
1963	472	147	--	--	619
1964	473	190	--	--	663
1965	426	257	--	--	683
1966	531	303	--	--	834
1967	419	151	--	3	573
1968	532	111	--	4	647

The manufacture of morphine shows an upward long-term trend, from 85 tons in 1954 to 120 tons by 1960 and to 150 tons by the late 1960s (see Table 7). The rather steady growth of morphine

Table 7

World Licit Production
of Opium, Morphine, and Codeine a/

Metric Tons

Year	Opium	Morphine	Codeine
1960	1,498	120	104
1961	1,254	116	105
1962	1,445	121	105
1963	1,171	128	119 b/
1964	940	119	109 b/
1965	901	123	112 b/
1966	782	149	131
1967	778	143	127
1968	1,002	153	136

a. Excluding Communist China and North Vietnam.
b. Incomplete reporting.

production has been stimulated by the rising demand for codeine, the production of which climbed from 104 tons in 1960 to 136 tons in 1968. About 95% of the morphine produced is now reserved for conversion to other substances, overwhelmingly to codeine. While the drawing down of stocks probably accounted for most of the raw materials not supplied by world exports, requirements were also met to some extent by increasing use of poppy straw. Whereas poppy straw accounted for 29% of the morphine produced in 1965, in 1969 the ratio was 39%.

The decline in the production of raw opium since 1964 has resulted in higher prices. Average prices paid for Turkish exports rose from $11.49 per kilogram in 1966 to $13.00 in 1968 and to $16.00 in 1969. The current shortage in world opium supplies appears to be only temporary, however, and the key question for the longer term is not whether opium will be abundantly available but, rather, whether world demand for the production will be sustained. The recent increase in Indian poppy acreage should be sufficient to meet any foreseeable rise in

medicinal needs under present pharmaceutical technology. Any major change in the market for raw opium will therefore almost certainly depend, in the first instance, on the extent to which satisfactory synthetic replacements are found for codeine. To date, such synthetics have proved costly to produce. The market for licit opium will also depend on whether a rapid expansion of poppy straw production proves both technically practical and economically worthwhile.

The main government programs to provide maintenance dosages of raw opium to registered addicts have long been declining except in Iran. In India, distribution to registered addicts through authorized outlets fell from 150 tons in 1950 to 34 in 1957 to about 3 tons on average since 1960. In Pakistan these sales declined from 14 tons in 1957 to an average of about 7 tons in the mid-1960s. In both countries the decline in the programs appears to be due chiefly to progressively higher excise taxes added on the price to addicts. As a result, supplies are cheaper on the black market. In Iran the maintenance program has been growing rapidly in 1970, with the number of registered addicts reaching 50,000 by mid-year. The growing enrollment largely reflects an intensifying shortage of illicitly imported opium in the country. This shortage has driven up the black market price for opium, sometimes beyond the very high licit maintenance dosage price. The latter price is currently $230 per kilogram, or $0.23 per gram.

Effects of Government Policies on the Illicit Market

Government policies have produced changes -- in some instances massive changes -- in all aspects of illicit enterprise in opium and opiates. The shutdown of the Chinese market, abolition in Iran, and China's gradual gaining of administrative control over its own poppy-growing areas largely determined the illicit patterns of production, consumption, and trade that existed during the 1960s. These steps led to a concentration of world illicit production in the Far East, Afghanistan-Pakistan, and Turkey. Abolition in Iran also significantly

altered the consumption patterns of that country's large user and addict population.

Illicit Patterns to the Mid-1950s

With the change in government in China in 1949, world illicit demand for opium was greatly diminished. Before 1949, China was the largest single illicit market in the world, possibly several times larger than all other markets combined. Some estimates place the Chinese user and addict population on the eve of World War II at 10 million. This population, which may have changed little during the War, was mostly in the large eastern cities and was supplied principally by imports. These originated chiefly from Iran and India, then the world's two leading producers of illicit opium. Many other countries including Pakistan, Egypt, and countries of French Indochina contributed small amounts to China. The Chinese opium-producing areas centering around Yunnan Province were remote from the main consumer markets of the country. They supplied a relatively small local market, but most of their large output was shipped out of the country to the south. Chinese opium went directly to Burma and the countries of French Indochina and through them to Southeast Asia, Hong Kong, and in some quantity to eastern coastal cities of China itself.

In the early 1950s, after the shutdown of the Chinese market, Iran remained a leading producer and exporter of illicit opium. Given an estimated 25,000 hectares under poppy cultivation and a licit output averaging only 185 tons annually, the balance of output available for illicit purposes was several times larger. In addition to providing for most of the large domestic market, this illicit output supplied many other markets to the east and west of Iran. Probably the larger part of Iranian exports moved in the brisk traffic eastward through the Persian Gulf to Hong Kong and Southeast Asian countries. Toward the west the main flows went both through the Gulf and overland to Iraq, Syria, Lebanon, the Arabian Peninsula, and North Africa. Some of the Iranian opium directed westward was destined for Western Europe and North America

after first being processed into morphine in Syria and Lebanon and then being shipped to Italy and France for processing into heroin.

India's illicit export trade began the drop to its present low level in the early 1950s. The denial of access to the massive Chinese market was the initial cause. At the same time the Indian domestic black market was becoming a major alternative outlet for illicit production. During the first half of the 1950s, the government's maintenance program -- in the past the principal source of addict consumption -- was already declining precipitously.

Production from South China apparently continued to service the markets of the Far East and Southeast Asia during this period, but probably in decreasing measure. Although seizures of Chinese opium continued to be reported by customs authorities in Hong Kong and Southeast Asia, it may be presumed that illicit production in China began to decline as the new government extended its political control. It is reasonable to assume that production in Burma, Laos, and Thailand, which had long been servicing the same markets, probably began to increase as an offset to declining Chinese output.

The remaining major source of illicit output was Turkey. Virtually all its output was exported, mainly southward to the Arab countries also being supplied by Iran. As with Iranian opium, part of the Turkish product was directed to Western Europe and North America after processing and transshipping first through Syria and Lebanon and then through Italy and France. Some portion of Turkish opium was aimed directly at Italy and France by sea routes chiefly originating in Istanbul. In this period, West Pakistan was still a minor producer. Dependent on Afghanistan for a large share of its own supplies, West Pakistan was probably a net importer of opium at this time.

From the Mid-1950s to the Mid-1960s

After Iran banned poppy cultivation in 1955 and China acquired control over its cultivation, the

main shifts in world illicit opium production were responses to continuing high demand in Iran itself and in the region of the Far East and Southeast Asia. In order to meet demand in Iran, illicit production rose sharply in both Afghanistan-Pakistan and Turkey. After the elimination of supplies from China and Iran to the Far East and Southeast Asia, production also rose substantially in Burma, Laos, and Thailand. In addition, with the elimination of Iran's formerly westward-moving illicit exports, Turkey largely filled the gap by increasing its exports to the Arab countries, Western Europe, and North America.

Afghanistan-Pakistan came to supply the larger portion of Iran's post-abolition illicit imports, which eventually reached an estimated 250 tons annually. Reflecting the pull of Iranian demand, the illicit price for opium in West Pakistan rose by more than 250% from 1957 to 1959. Toward the late 1960s, when production had risen to an estimated 175 to 200 tons per year, the price dropped to the 1957 level. While expanding its illicit output, moreover, West Pakistan became virtually the sole supplier to its own fairly large domestic black market. Large increases after the mid-1950s in Afghanistan's poppy acreage, in irrigated valleys adjacent to Pakistan, were noted by several observers. Meanwhile, during the early and mid-1960s, Turkey's illicit output accounted for about 40% of Iran's illicit imports. Opium of Turkish origin largely supplied the western half of the country.

By the end of the 1950s, Burma, Laos, and Thailand together had become a massive producer, and the source of more than half the world's present illicit supply of 1,250 to 1,400 tons annually. Moreover, with this increase in output the region of the Far East and Southeast Asia quickly became self-sufficient in opium.

With the shifts in world illicit production since 1955, there have been some major changes in levels of consumption. Abolition in Iran reduced the active user and addict population of the country significantly. The current population of some 350,000 represents perhaps only one-third that existing before abolition. The growth or decline

of populations elsewhere in the world is not easily documented. Consumption in the Far East and Southeast Asia very likely rose substantially during the 1960s. Increased consumption in Burma, Laos, and Thailand seems especially likely in view of the rise in supply. Western Europe and North America also experienced rapid growth in their addict populations -- almost exclusively addicted to heroin -- after World War II. Some growth in these populations has apparently persisted throughout the postwar period.

Moreover, addiction to opiates -- mostly to heroin -- has been on the rise in the postwar period. Heroin addiction has grown in several other countries besides those in Western Europe and North America. Before the mid-1950s, Iranian addicts were exclusively consumers of raw opium. Heroin was indeed unknown in the country until 1953. From 1960, however, heroin addiction spread rapidly so that by the middle of the decade the population probably reached its present level of 50,000. In the Far East and Southeast Asia, considerable growth in heroin addiction also occurred. The observations of many specialists document this phenomenon as do the increasing number of heroin-processing installations in the region, particularly in the producing countries and Hong Kong.

In both the Far East and Iran, a shift from emphasis on heroin consumption in urban areas has probably been stimulated by enforcement efforts because heroin is easier to handle by traffickers and its consumption is less visible. However, heroin addiction in these countries as elsewhere also reflects basic problems of development and health.

As Turkish traffic toward the Arab countries, Western Europe, and North America increased to replace Iran's exports, the routing of the portion destined for Western Europe and North America increasingly shifted to direct overseas shipments from Turkish to French ports. By the mid-1950s -- thanks to decisive action by Italian enforcement authorities -- Italy ceased to be an important

processing and transshipment point in this traffic. From the 1960s, however, Turkish traffic destined for Western Europe and North America also began to go overland to Europe in increasing amounts in defense against enforcement applied both in Turkey and France to seaborne contraband. Also as a defense against enforcement and for greater profits, Turkish traffic in morphine increased rapidly from the mid-1950s. By the mid-1960s practically all Turkish illicit exports to the West consisted of crude morphine. Heroin has never been manufactured in Turkey, and Turkish smugglers are loathe to carry heroin, probably because the government set very stiff penalties in 1953 for trafficking in the product.

Recent Developments

The main recent change in world illicit production has been the decline in Turkish output. In 1968, illicit production dropped sharply as a consequence of official policies to reduce poppy acreage and to purchase a larger share of the total crop. Substantial cutbacks in acreage were actually begun in 1964 (from 38,000 to 28,000 hectares), but this had no marked impact on illicit output. This was the case because until 1968 government purchases from the farmers averaged much less than half of total production, as indicated by the data on yields from licit production. Derived from government purchases and official acreage estimates, these yields fluctuated from year to year but averaged only 6 kilograms per hectare during 1960-67 (see Table 8). Actual yields from this acreage, on the other hand, may have averaged as much as 15 kilograms, with the balance available to the illicit market. In 1968, however, government purchases rose slightly, to 122 tons, even though acreage had been reduced by one-third. The official yield thus rose to 9.4 kilograms per hectare. On roughly the same 13,000 hectares in 1969, the official yield reached nearly 10 kilograms per hectare. Even if allowance is made for a slight increase in actual yields on the reduced but probably more fertile poppy acreage, illicit diversion in Turkey, which probably averaged

Table 8

Turkish Licit Production,
Acreage, and Yields of Opium

Year	Production (Metric Tons)	Acreage (Hectares)	Yields a/ (Kilograms per Hectare)
1960	365	42,000	8.7
1961	172	38,000	4.5
1962	311	36,000	8.6
1963	287	38,000	7.6
1964	83	28,000	3.0
1965	86	22,000	3.9
1966	139	24,000	5.8
1967	115	20,000	5.8
1968	122	13,000	9.4
1969	127	13,000 b/	9.8

a. Derived from official estimates of acreage and government purchases of raw opium from the farmers.
b. Estimated.

well over 250 tons in previous years, may have been cut back by more than half as the government acquired a larger share of the crop.

With the fall in illicit output, Turkish illicit exports must also have declined. The effects of reduced production on exports would not have been felt until 1969, however, because exports in 1968 originated chiefly from the 1967 fall harvest. In 1969, Turkish exports to Iran were probably cut back in favor of maintaining exports to the more profitable Western markets.

There has been a further decline in Turkish illicit output this year which can be related to drought conditions that substantially reduced actual yields and to changes in official policies in both Turkey and Iran. In 1970 the Turkish government decided for the first time to buy up the entire opium crop if possible and instructed

its purchasing officers and enforcement arms accordingly. Also for the first time, Ankara and Tehran in 1970 entered into a formal collaborative effort to suppress opium smuggling from Turkey to Iran. The Turkish army and Iranian gendarmerie signed an agreement in January providing for increased cooperation and forces on both sides. The upshot of all these developments has been a severe reduction in the traffic across the Iranian-Turkish border and in the traffic of Turkish origin across the Iraqi-Iranian border. Seizures in these areas have dwindled to insignificance this year. The incentive to Turkish smugglers to ship opium and morphine to Iran was also dampened in 1969, when Iran imposed the death penalty for narcotics smuggling offenses.

The reduced supply for Iran from Turkey combined with the generally intensive enforcement campaign initiated in 1969 by Iran has resulted in a scarcity of opium and heroin in the country. From August 1969 to August 1970 the illicit price of Turkish opium in Tehran doubled, ranging from $100 to $400 on the latter date, depending on quality. Much of Turkish opium thus was available only at prices in excess of the licit price for maintenance dosages for registered addicts. Prices for heroin, manufactured mainly from Turkish opium and morphine, tripled during this period. While the imposition of capital punishment and increased border surveillance have been weighty deterrents to Turkish smugglers, these measures have been less effective against their Afghani counterparts. By mid-1970 the price of Afghani opium in Iran was still well below the licit price. Iranian seizures on the Afghani border have risen sharply in 1970, but there are also indications of more frequent border incursions from Afghanistan involving smaller shipments in order to thwart the Iranian border authorities. A large number of the more than 40 persons executed in Iran for smuggling offenses since 1969 have been Afghani tribesmen. In view of the reduced supplies from Turkey and the persisting strong demand in Iran, it seems likely that production in Afghanistan-Pakistan will increase.

The drop in Turkish illicit output may soon be reflected in illicit traffic patterns to Western European and North American markets. If illicit Turkish output this year indeed declined, supplies from this source for Western Europe, North America, and the Arab countries will not be available in the usual amounts in 1971.

During the past two years, traffic of Turkish origin has also been the target of stepped-up enforcement by the French and US governments. One consequence has been some shifting in the location of heroin-processing plants formerly based in the Marseilles area but now more widely dispersed to areas both within and outside France. Moreover, the regular smuggling of heroin from Europe to the United States has become a more difficult task for the wholesalers to arrange. At the same time, as established traffic organizations have encountered increased enforcement opposition, the smuggling business itself has witnessed the entry of new organized rings. The recent arrests of Cuban exiles in the United States provide a striking example of this general trend. Finally, enforcement in the United States has evidently helped set the stage for the entry of new groups, attracted by the prospects of large profits, into the wholesale distribution of heroin in the United States. Some established wholesale firms, reacting to the enforcement pressures, have apparently chosen to disengage themselves at least temporarily from the business while some others were forced out by successful prosecutions. The entry of some of the Cuban-exile smuggling groups into the internal wholesaling of heroin in the United States indicates a degree of disarray in the established wholesale structure.

Given the prospect of reduced supplies for Western markets from Turkey and also reduced supplies from Mexico to the United States following Mexican-US collaboration in Operation Cooperation, the traffickers have already begun to seek out new sources. Probably in direct response to enforcement pressures in Mexico, some dealers in the traffic from that country to the United States have

been exploring the possibilities for developing new sources in other countries. Both new heroin distilleries and new areas of poppy cultivation have been observed this year in South America. Other wholesalers are apparently turning to the Far East for supplies. Although that area still remains a relatively small supplier of heroin to the United States, traffic from the Far East has increased in the past year, perhaps severalfold. New smuggling organizations are being formed in anticipation of growth in traffic by that route. Meanwhile, the West European market has also felt the effect of reduced supplies from Turkey. Recently, for example, there have been increasing amounts of heroin appearing in European countries from Pakistan, India, and the Far East.

Controlling Opium-Based Drug Abuse

Control and Development

Opium-based drug abuse has persisted as a growing international problem. This is evident in the rise of consumption generally in the Far East and Southeast Asia and in the international spread of heroin addiction. The illicit sector has shown great flexibility in adjusting to drastic changes in sources of supply. When national governments have eliminated or significantly curtailed illicit production, new sources have quickly been developed on a large scale. Similarly, when national enforcement campaigns have unsettled established wholesale structures, the effect has soon been blunted by the entry of new organizations into the trade and the eventual re-emergence of fairly stable marketing arrangements.

The growth of opium-based drug abuse reflects larger problems of economic, political, and social development. The economic incentive to cultivate poppy remains strong in most producing countries because agricultural incomes are low and labor cheap. Complete administrative control over poppy cultivation is difficult in the best of circumstances and made impossible in many areas by lack of national political control. Abuse has grown partly because prevailing public attitudes tend to forestall broad treatment and rehabilitation programs. In most producing countries the public is tolerant of widespread habitual use of opium. In many nonproducing, victim countries, on the other hand, abuse is commonly viewed as a criminal activity and the burden of responsibility falls upon enforcement agencies. At the same time, national resources for an attack on consumer demand itself have not been available on a scale commensurate with the extent of addiction. Also partly because of public attitudes, enforcement itself has lagged in developing techniques appropriate to suppressing the illicit trade at the controlling wholesale level. Progress both in enforcement and treatment has been hampered, finally, by inadequate international cooperation.

Dampening the Incentive to Produce

An economic approach to controlling illicit opium production has serious limitations. The basic problem is that opium is almost always produced where labor is plentiful and cheap and the demand for it is strong. There are many substitute crops that would earn more income than opium per unit of labor input but it is difficult to find any that would earn more than opium per unit of land. So long as large-scale underemployment exists, a farmer can increase his family's income by raising poppy, natural conditions being appropriate.

Thus the government seeking to control production through incentives will probably find that crop substitution will not suffice. Such a program would have to be accompanied by subsidies -- either directly to the farmer as an inducement not to grow poppy or indirectly in the form of supporting above-market prices for substitute crops. In the long run the best solution, of course, is to promote the general economic development of the poppy-growing areas. Raising agricultural yields, diversifying farm output, and establishing industry accessible to local labor would all help. Among the major opium-producing countries, Turkey is most advanced in economic development, and its further development will probably reduce the profitability of opium production significantly. But in the countries to the east this goal probably remains out of reach for a long time to come, and any effective restriction of output will depend most heavily on the capability for direct government control.

Although opium production is an important source of income to individual farmers and thus a political issue of moment in some countries, it does not benefit the national economies of any of the producing countries significantly. India, the world's largest producer and exporter of licit opium, earns only $6 million to $7 million annually from overseas sales compared with total export earnings approaching $2 billion. Income generated from licit production -- measured by the total returns to farmers -- hardly exceeds $12 million

annually. Turkey's situation is similar. In 1967, for example, Turkish licit opium exports were valued at $1.7 million, less than 0.3% of total export earnings. In addition, some smaller amount was earned from exports of poppy straw. Income generated in Turkey that year from licit production may have approached $3 million, out of a national income of nearly $9 billion. Against the scale of national income, it is apparent that illicit production is also of minor significance in all the other producing countries. If the tribal area of Burma-Laos-Thailand were considered as an economic region, however, opium production would assume more economic significance. Opium is a principal source of income at least among some of the tribes. It also helps finance the importation of arms and hence is a main economic support of insurgency.

Direct Control Over Production

While Communist China, Iran, and, on a partial basis, Turkey have shown that energetic national governments can stop the production of opium, the major share of illicit output comes from areas where such national control is not possible. Most of the world's illicit opium is now produced by tribal peoples over which their respective national governments impose little political control. The lack of control is most complete in Burma, Laos, and Thailand where most of the producing areas are also areas of insurgency. In Pakistan, most illicit poppy is cultivated in the settled areas of the Northwest Frontier Province where the settlers cultivating it are mostly tribal peoples although they live mainly outside the designated tribal areas. Much the same situation exists in Afghanistan. The small scattered production in Mexico, South America, and North America takes place in remote rural areas.

Even where control systems to monitor poppy cultivation have been established, however, large illicit production has occurred, as in Turkey and India. Turkey has no licensing system fixing quotas on poppy acreage for individual farms, but both countries record acreage and have state monopolies responsible for the collection of all harvested opium. In general, illicit production

in such countries can originate from two sources: (1) from understating yields on licensed or otherwise reported acreage, and (2) from unlicensed or unreported acreage.

In Turkey, official statistics on acreage are probably fairly complete, and understatement of yields appears to be the principal source of illicit production. Until recently, most production entered illicit channels, as the state opium monopoly restricted its purchases to the amount necessary to fulfill its export sales contracts.

Very little of Pakistan's poppy cultivation is under a formal control system, but where that system has been in force a substantial portion of the production has leaked in the same fashion as in Turkey. During 1966-68 the official Pakistani yield averaged 4.7 kilograms per hectare, probably only one-third the actual yield. This yield mainly represented the opium needed for the government maintenance program for addicts.

In India, probably most illicit production has originated not from understating yields but from unlicensed acreage. Official Indian yields have rather steadily averaged about 20 kilograms per hectare and hence should not understate actual yields by very much. In India as in Turkey the government's purchasing policy largely reflects export contracts. During the 1960s, 70% of licit Indian production was exported.

To date, Iran's fledgling control system over opium production has been subject to little leakage. Its effectiveness has been due to the combination of a high farm price for opium and extremely severe punishment for illicit dealing in opium. A very high priority has been assigned to administering the new program. Responsibility for licensing poppy acreage and collecting the harvested opium has been vested in the Ministry of Land Reform, which has taken elaborate control measures. A number of new laws have been passed, including the one fixing capital punishment for trafficking in opium or opiates. Enforcement efforts, including those of the gendarmerie in the rural areas, have been greatly stepped up.

In countries where poppy is cultivated by tribal peoples beyond the political reach of the national governments, opium production can probably be controlled only with further political development. Such development would probably have to include not only extending national political control into the tribal areas but also socially integrating the tribal peoples into national life. Even in Pakistan the requisite development represents formidable and probably long-term tasks. In Burma, Laos, and Thailand this kind of development must await both an abatement of insurgency and also an easing of international tensions presently focussed in the area.

In order to achieve full control of poppy production in Turkey and India, the governments would have to exert costly administrative and enforcement efforts continuously. The historical tendency, however, has been for both countries to minimize such costs and to hold crop collection down to the level of export commitments. The apparent drop in Turkish illicit output reflects improvement in the control system, but as matters stand it could be vulnerable to recurrent leakage. Whether or not a licensing system is in force, the poppy farmer is attracted to illicit dealings if the black market price is significantly higher than the licit price. Iran is trying to prevent diversion by setting a very high farm price for opium, but if production there becomes large the program's costs will be significant. In view of the cost and effort needed to control even small-scale production in Iran, a simpler answer -- administratively and from the point of view of enforcement -- would be to abolish cultivation altogether. Abolition has proved feasible in the past in all of Iran and more recently in many provinces of Turkey.

Reducing Demand

On the whole, public attitudes toward opium-based drug abuse probably have not changed very much in the last two decades. In much of the world, tolerance based on longstanding beliefs and customs prevails. Among tribal peoples producing opium, its use in religious ceremonies and on festive occasions is common. Among these

peoples and others without access to modern medicine, opium is a general household medicine. Belief in the efficacy of opium as an aphrodisiac and cure-all is widespread. By contrast, in most countries where heroin addiction is the main abuse problem, public fear and outrage tend to focus on the illicit traffickers and addicts alike.

As a consequence of these attitudes, almost nowhere is opium-based drug abuse regarded primarily as a medical problem. In the present state of medical and social scientific knowledge, the costs of treatment and rehabilitation aimed at entire addict populations are not predictable. The costs, however, would almost certainly involve treatment of broader human problems of adjustment to rapid social change and mental health generally and could easily exceed politically acceptable limits. As matters stand the degree of public support for new medical approaches to treatment and rehabilitation is uncertain. Unexpected leakages from the system of free prescriptions for addicts in Britain, for example, may lessen acceptance of further experimental programs in that country. In the United States, methadone programs for treating heroin addicts have an uncertain future not only because medical efficacy has yet to be confirmed but also because public support for broad-scale coverage is as yet undetermined.

The fate of the maintenance programs for opium addicts in India and Pakistan suggests that fiscal constraints can easily weaken government-sponsored treatment programs for addicts in any country. Pressures to record budgetary surpluses from the programs helped price licit opium largely out of the market so that the black market could supply addicts more cheaply but still realize large profits. Moreover, because the programs declined rapidly in both countries, no adequate test of their efficacy in diminishing addiction was possible.

Iran now operates the largest opium maintenance program, with increasing success to judge by the rising enrollment of registered addicts. The governing principle in the Iranian program -- that receipts must cover costs -- has dictated the official price to addicts of $230 per kilogram,

however. In view of that price, the program's success to date must be largely attributed to the effectiveness of police controls over illicit imports and production. If illicit supplies again become more plentiful and cheaper, the program will probably fall off.

Breakthroughs in medical and social science are in all probability essential for any large reduction in illicit market demand. Gaps in knowledge of abuse patterns are formidable and probably less is known about the medical and social effects of raw opium -- still the main form of abusive consumption in the world -- than about those of heroin. Research on opium-based drug abuse would undoubtedly benefit from close links with work on psychomimetic substances. Given the breadth of the research problems and their long-term nature, a greater international pooling of scientific effort would be strongly indicated.

Suppressing the Illicit Trade

The organizational character of the illicit wholesale trade and the political and economic settings in which it prospers help to place the enforcement tasks in perspective. Although its operations are national and international in scope, wholesaling in opium or opiates often represents only one part of a particular syndicate's business activity and very often not the most important part. Historically the near-monopoly of the US wholesale heroin trade by the major criminal organizations in the country has exemplified this situation. The fact that wholesale organizations the world over frequently manage to protect themselves politically adds to the enforcement complexities. Finally, illicit trade in opium and opiates is very often part of a larger smuggling activity. In some producing countries, for example, a significant portion of international trade moves through smuggling channels. When it reaches this scale, however, the suppression of trade in a single commodity may be extremely difficult.

A change in the public's view of the enforcement mission is probably indispensable to more effective suppression of the illicit wholesale trade. Just as they tend to define the scale of treatment and rehabilitation, public attitudes influence the kind and amount of law enforcement available. By and large any citizenry wants police protection for its immediate safety and protection against locally based, relatively unorganized criminal activity. There is generally little public awareness of criminal activity organized on national and even international lines. It has frequently been observed that this lack of awareness in the United States results in a pendulum effect in law enforcement administration. Occasionally public interest in nationwide enforcement campaigns is aroused, but the interest then wanes and, as a result, the campaigns tend to diminish in intensity and effectiveness.

Moreover, in order to contribute to a lasting suppression of opium-based drug abuse, enforcement probably would have to accomplish a twofold developmental task of its own, consisting of (a) a redefinition of targets and (b) a reform of organization and methods. Most enforcement manpower is necessarily occupied with suppressing locally based criminal

activity, and much work of national police organizations directly supports local enforcement. One effect of this focus is the preponderance of the enforcement effort even at the national police level that is directed against relatively small-scale retailers of opium and opiates, hired couriers of the contraband, and the addicts themselves. In most countries there is no intelligence organization with central responsibility for operational and analytical intelligence in respect to national and international criminal organizations.

Finally, an upgrading of enforcement capabilities against the illicit trade in opium and opiates would almost certainly presume increasing international cooperation among police agencies and perhaps especially multilateral cooperation. Despite their notable achievements the recent bilateral enforcement agreements between the United States and Mexico, the United States and France, and between Iran and Turkey serve to point up the relatively occasional nature, historically speaking, of such accords. There is a need, therefore, for more continuity and a systematic exchange of intelligence on criminal activity involving a broad range of countries. Although the creation of Interpol represents a significant advance in this respect, that organization has been operating with limited support from participant states. It does not have sufficient funds to modernize its communications systems and is not organized for intelligence collection. Often the members must collaborate bilaterally in order to speed up intelligence acquisitions. The limitations on Interpol's effectiveness reflect a narrow view of the enforcement role against highly organized criminal activity in general and against the wholesale trade in opium and opiates in particular. A broadening of this view could be essential to a lasting suppression of illicit traffic in opium-based drugs.

Conclusions

Less than half the world's opium is produced for licit medicinal purposes, chiefly for manufacturing codeine. The balance of production -- some 1,250 to 1,400 tons annually -- is illicitly produced and marketed for consumption of some two million users and addicts around the world. Illicit production is now concentrated in Southeast Asia (the hill country of Burma, Laos, and Thailand) and in Afghanistan and Pakistan but continues on a significant scale in India and Turkey. Most of the people consuming this illict opium take it in raw form, but a large and increasing proportion has been using it in its refined, more dangerous form of heroin. Addiction to opium is a major problem in every opium-producing country except Turkey as well as in many non-producing victim countries. The United States has the largest single population of heroin addicts -- over 100,000 -- but Western Europe, Iran, the Far East, and Southeast Asia also have large populations. The market for illicit opium and its derivatives is everywhere controlled at the wholesale level by syndicates highly organized on national and even international lines.

Since World War II the main changes in the world market for opium have resulted from national government policies, chiefly policies eliminating or significantly reducing production but also enforcement policies. Despite these government actions, however, the illicit market has shown a continuous flexibility in replacing sources of supplies, in responding to shifts in demand, and in devising new channels of illicit traffic. As a result, abuse of opium-based drugs has been a persistingly growing international problem.

Growth of the abuse of opium-based drugs reflects larger problems of economic, political, and social development. The economic incentive to produce opium remains strong in most producing countries because agricultural incomes are low and labor cheap. Complete administrative control over poppy cultivation is difficult in the best of circumstances and made impossible in many areas of lack of national political control. Abuse has grown

partly because prevailing public attitudes tend to forestall broad treatment and rehabilitation programs. As a reflection of these public attitudes, enforcement itself has lagged in developing techniques appropriate to suppressing the illicit trade at the controlling wholesale level. Progress both in enforcement and treatment has been hampered, finally, by inadequate international cooperation.

Specific problems involved in the control of the illicit opium market include the following:

a. A purely economic approach has serious limitations because crop substitution alone will not suffice. In order to fully offset the loss to the farmer for forgoing opium production, crop subsidies would almost certainly be required.

b. Direct administrative control over poppy cultivation is not possible in many areas of illicit production, because they are not controlled by the national governments. Even in countries where national governments are relatively strong, those governments must exert costly administrative and enforcement efforts continuously in order to suppress illicit production;

c. A greater effort to reduce demand itself is now indispensable for the control of abuse of opium-based drugs, but this requires public support for larger expenditures on treatment. At present the degree of such support is unknown. A reduction in illicit market demand also presupposes breakthroughs in medical and social science and a greater pooling of international efforts in research.

d. Enforcement alone cannot suppress abuse of opium-based drugs in the countries now experiencing its worst effects. Nevertheless, the contribution of enforcement to suppression would be improved by focusing more effort against the illicit trade at the wholesale level and by upgrading enforcement methods and organization, particularly

at the national police level. Increased international collaboration among enforcement arms against organized crime is probably crucial to suppressing the illicit trade.